DIVISION OF FISH AND WILDLIFE PROGRAMS

1985

DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
OFFICE OF POWER AND RESOURCES MANAGEMENT

October 1985

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BACKGROUND

In 1976, BPA Administrator Don Hodel responded to concerns over the region's declining fish runs by signing a Memorandum of Understanding (MOU). The MOU drew together some of the major parties concerned with the Columbia Basin's anadromous (migratory) fish including the chairmen of the Confederated Tribes of the Umatilla, Warm Springs, Yakima, and Nez Perce Indian Reservations and the governors of Oregon, Washington, and Idaho. Under the MOU, BPA agreed to finance "a regional program of Columbia River Fisheries Restoration."

By 1978, BPA's first fishery projects were underway. The Office of Power and Resources Management appointed a Fish and Wildlife Program Manager to lead the program. Staff members also worked to include fishery considerations in power planning.

In December of 1980, Congress passed the Pacific Northwest Electric Power Planning and Conservation Act (Act). The Act assigned BPA responsibilities for protecting and enhancing fish and wildlife affected by Columbia River Basin hydroelectric dams. The Act also required the Northwest Power Planning Council to pull together recommendations from the region's fish and wildlife agencies and Indian tribes in order to develop a comprehensive Fish and Wildlife Program (Program). The Council issued the Program in November 1982.

The Act directed BPA to consider the Program when carrying out its fish and wildlife responsibilities. Of the Program's 220 measures, nearly half are assigned to BPA. In anticipation of this increased workload, BPA elevated the Fisheries and Wildlife Program Unit to the Division of Fish and Wildlife in June 1982.

Five years have passed since the Act became law. In that time, BPA has made significant strides toward meeting its fish and wildlife responsibilities and has invested approximately $45 million in habitat improvements, hatchery construction, and related projects. The Water Budget--a block of water used, not for power production but to hasten spring fish migrations--costs BPA another $54 to $74 million each year in lost revenues. In addition, BPA is repaying the Federal Treasury $500 million for its share of fish ladders and hatcheries already in place.

ORGANIZATION AND FUNCTIONS

The DIVISION OF FISH AND WILDLIFE carries out BPA's responsibilities to "protect, mitigate and enhance" fish and wildlife resources affected by development and operation of hydroelectric power generation on the Columbia River and its tributaries. To resolve inequities, the Division defines and evaluates overall strategies to implement fish and wildlife activities both within and outside the agency.

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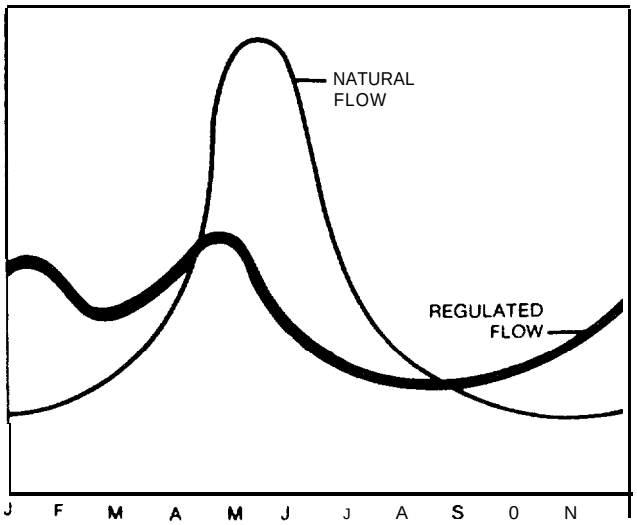
Figure 1

Official Organizational Chart
U.S. DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
AUGUST 5, 1995

The SYSTEMS INTEGRATION BRANCH develops the policies needed to carry out BPA's fish and wildlife respcnsibilities under the Northwest Power Planning Act. Staff members evaluate planned hydroelectric operations for possible fish and wildlife impacts and lay out recommendations to integrate equitable treatment of fish and wildlife into BPA's plans and programs. The Branch oversees the Water Budget and spills and other operational plans for fish and wildlife.

EQUITABLE TREATMENT

Dams gave the people of the Pacific Northwest cheap electricity. But those cheap rates were subsidized by losses of migratory fish. In 1980, Congress decided that power beneficiaries should pay for a new and greater effort to make up for the damage caused to fish by the power dams. Congress required that the regional power system be operated in a manner that assures "equitable treatment" for fish and wildlife. Such treatment may not always require expenditures of BPA revenues, but rather, foregoing some power revenues by virtue of operating the hydroelectric system to give special consideration to fish passage as well as power production. It could mean choosing some more expensive future power projects over less expensive projects to avoid further harm to fish and wildlife.



WATER BUDGET

Operation of the Federal Columbia River Power System calls for seasonal transfer of water to generate electricity when required throughout the year. This results in changes in flows which endanger the survival of juvenile fish. To move fish downstream faster during the peak spring migration period, BPA funds the Water Budget Managers who "shape" selected water flows between April 15 and June 15 and try to improve the smolts' odds of survival. The Systems Integration Branch also analyzes proposed power marketing activities and strategies to determine the effects of new flows, spills, and water levels on fish and wildlife resources and to create a balance between fishery and power needs.

HYDROELECTRIC PLANNING AND ACQUISITION

Numerous small (less than 5 megawatts) hydroelectric projects are planned for the region. When considered individually, such projects may have little effect on fish and wildlife; but as a group, impacts may be much greater. The Systems Integration Branch works with the BPA's Division of Power Resources Planning to come up with methods for the Northwest Power Planning Council to use in designating critical habitat requiring protection from further hydroelectric development; determining the cumulative effects of multiple hydroelectric projects; and evaluating possible hydroelectric acquisitions for potential fish and wildlife impacts.

MAJOR POLICY DEVELOPMENT

As BPA carries out its obligations under the Act and implements the Fish and Wildlife Program, the Systems Integration Branch will work to determine how much of the total loss of Columbia Basin fish and wildlife has been caused by Federal hydroelectric dams. The branch will consult with regional fish and wildlife agencies, Tribes and project operators, working with them to develop methods of estimating hydroelectric impacts on fish and wildlife, to define the extent of BPA's obligation to mitigate losses, and to develop procedures for monitoring and accounting for progress resulting from BPA actions.

The BIOLOGICAL STUDIES BRANCH plans implementation of areas of BPA responsibility in the Northwest Power Planning Council's Fish and Wildlife Program. The branch funds biological studies and related activities aimed at protecting, mitigating, and enhancing fish and wildlife resources. Staff members coordinate their work with affected state and Federal fish and wildlife agencies, Indian tribes, land management agencies, and utilities.

PROJECT IMPLEMENTATION

BPA's projects make up for losses caused by the development and operation of the Columbia River hydroelectric dams and protect fish and wildlife from future harm. Projects are drawn from the measures outlined in the Columbia River Basin Fish and Wildlife Program. To accomplish the tasks outlined in each of the Program's measures, staff members work closely with representatives from the scientific community to translate Program measures into specific projects and to clearly define project objectives. The Branch then solicits proposals from tribes, agencies, operators, and private consultants throughout the Pacific Northwest.

PROJECT MANAGEMENT

As technical representatives for BPA's Contracting Office, Branch personnel monitor project activities throughout the life of the project. Project work activities are coordinated with other agencies' plans so that the Division's efforts will be consistent with other efforts throughout the Columbia River Basin. The final project reports are published or presented at workshops in order to share information, discoveries and accomplishments, and to make best use of research results. Such information can help prevent duplication and provide a basis for further enhancement efforts throughout the region.

FISH AND WILDLIFE BUDGETS

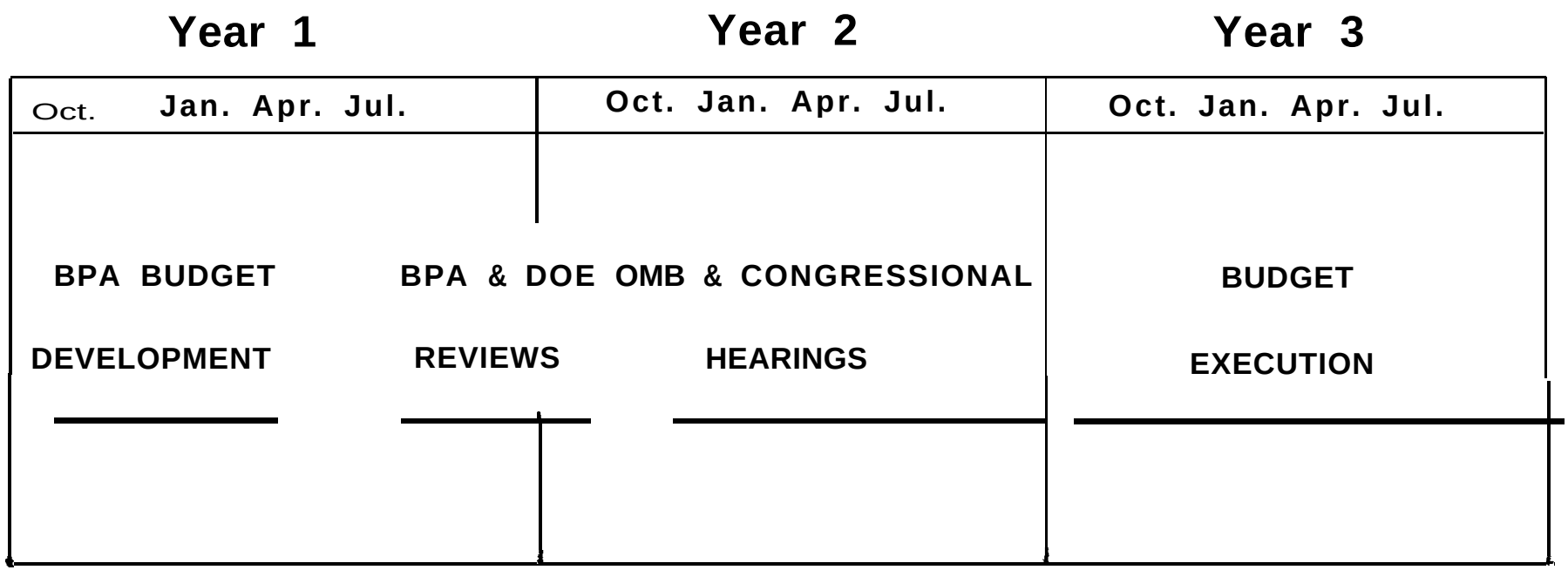
The Division of Fish and Wildlife's activities are not supported by taxes or Congressional appropriations. Fish and wildlife expenditures are funded through revenues from power sales, as part of the cost of running the Federal Columbia River Power System (FCRPS). The Federal Columbia River Transmission System Act of 1974 made BPA a "self-financing" agency and gave it the authority to borrow Treasury funds to finance major capital construction. BPA must secure Congressional approval to build facilities with a life expectancy of more than 15 years and costing more than $1 million to construct.

Budget approval is a 2-year process. For example, planning for FY 1985 expenditures began in 1983. Estimates are presented to the Department of Energy and the Office of Management and Budget for review. Budget figures and program plans are refined to incorporate their comments. Subsequently a final budget is presented to Congress for its approval. Parties interested in and affected by the fish and wildlife program may also scrutinize Division funding levels in BPA's electric power ratesetting process.

In 1978, the Division of Fish and Wildlife spent $0.5 million on fishery research. In FY 1983, the first year after enactment of the Program, the Division funded 93 contracts totalling $9 million. In FY 1984, the Division's budget doubled to $20 million to fund a total of 141 new and ongoing projects. During FY 1985, BPA funded a total of 139 contracts for $25.5 million.

Figure 2

THE BUDGET CYCLE



BPA DIVISION OF FISH & WILDLIFE BUDGET
FY 29784985

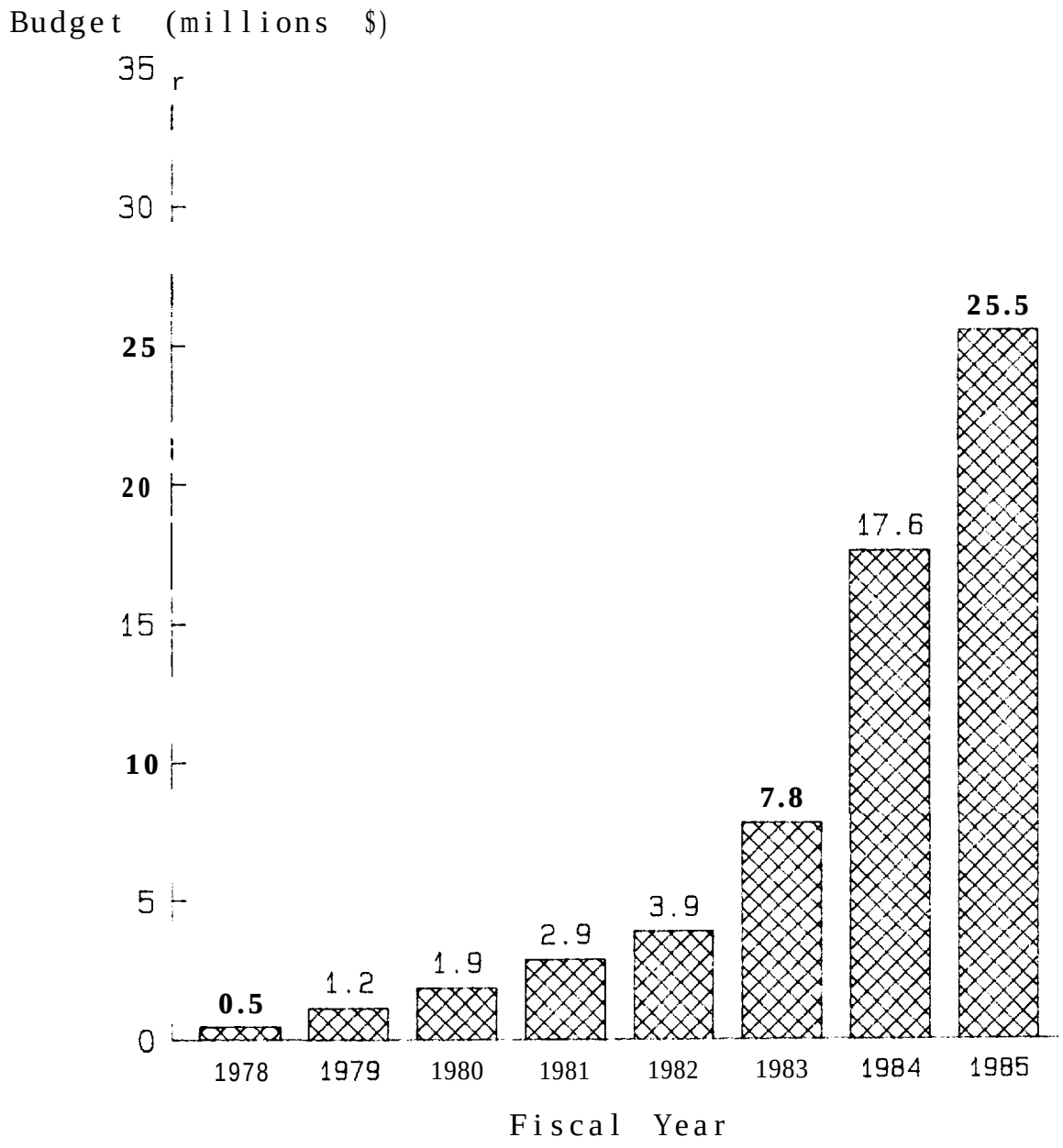


Figure 3

PROJECT EXPENDITURES

At the present, the Division spends 51 percent of its budget on construction, 11 percent on monitoring migrating fish, and 38 percent on fish and wildlife studies. Anadromous projects include:

- 24 projects to protect young fish (smolts) as they move downstream. Several projects track smolts during the critical migration period (April 15 to June 15) to properly time Water Budget releases. These water releases shorten the time it takes for a smolt to travel to the ocean. BPA contractors examine the stress caused by migrating through reservoirs and passing through dam structures. Others determine the number of salmon lost to predator fish thriving in dam-created reservoirs. Project biologists also tag fish and collect important data at strategic times in the life cycle.
- 19 projects to correct manmade passage problems in the Yakima and Umatilla Basins. BPA dollars will be used to rebuild or install new fish screens and ladders. Adult fish will use ladders to return to historic spawning sites. Screens will steer young fish clear of irrigation diversion canals.
- 35 projects to increase wild fish runs. Hydroelectric dams eliminated much of the natural spawning and rearing habitat in the mainstem Columbia and, in some cases, altered habitat in basin tributaries. Rehabilitation of tributaries make up for these losses. In streams where natural barriers prevent migrating adults from moving onto existing spawning grounds, contractors design fish passage. Other studies assess areas potentially suitable for future anadromous fish runs.
- 20 projects to protect upriver stocks of fish and restock natural runs with hatchery fish through low cost salmon production facilities, acclimation ponds or restocking of unused habitat.
- 11 projects to improve the quality of hatchery-reared fish. Hatcheries were built to make up for losses to hydroelectric development. BPA-funded studies measure their contribution to the Columbia River fishery. Researchers seek answers to questions on nutrition, stress, disease control, smolt hardiness, and strategies for releasing smolts in an effort to increase hatchery production.
- 3 projects to assess the impacts of small hydroelectric projects and protect critical fish habitat from future development

Twelve projects at Columbia River dams measured and mitigated wildlife losses caused by hydroelectric development. Another 12 projects will investigate the impacts of hydroelectric development and operation on white sturgeon in the Columbia River Basin, game fish in upriver reservoirs of Idaho, and wildlife in western Montana.

Division staff judge all projects on their ability to produce results. In many cases, dollars spent on research or habitat enhancement in one state enhance fish runs in another. Dollars spent on this year's fish and wildlife projects will eventually benefit the entire region.

BPA DIVISION OF FISH & WILDLIFE
NUMBER OF PROJECTS
FY 1978-1985

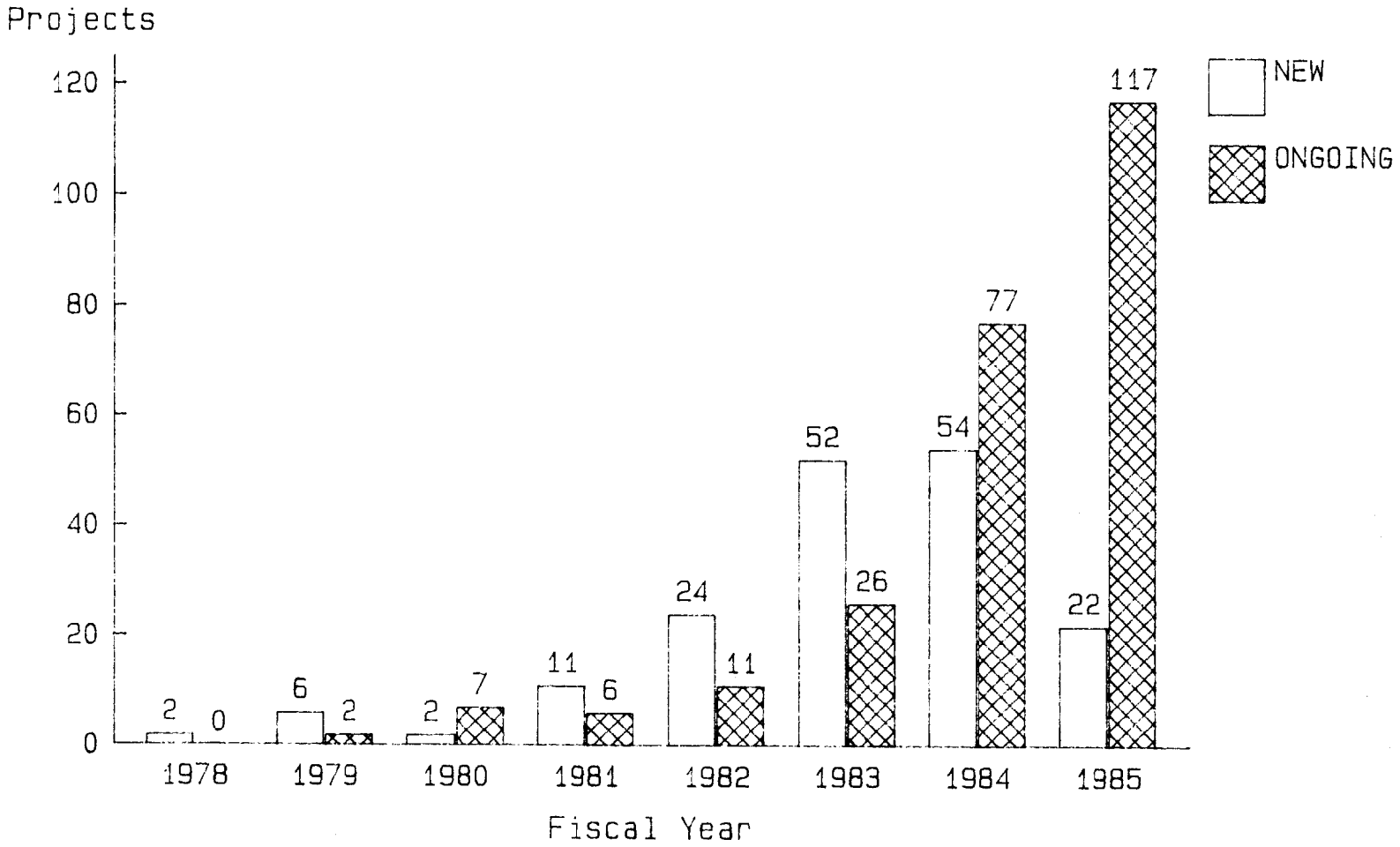


FIGURE 4

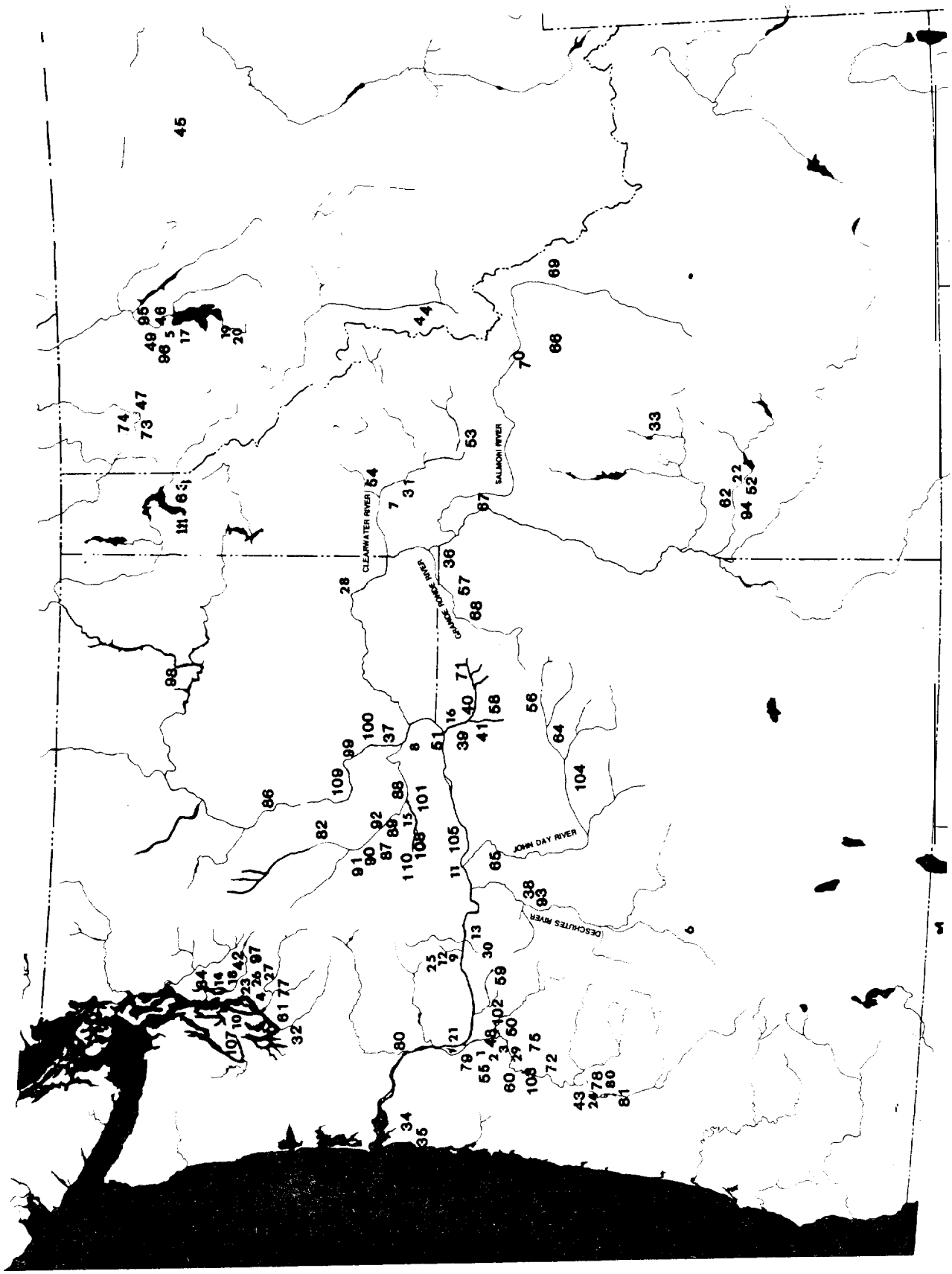


Fig • 5

Figure 5. LOCATION OF FY 1985 DIVISION OF FISH AND WILDLIFE PROJECTS

1985 FISH AND WILDLIFE PROJECTS

Map Location	Project Number	Project Manager	Performing Agency	Project Title
1	79-2	Ron Morinaka	NMFS Portland, OR	An Evaluation of the Contribution of Chinook Salmon Reared at Columbia River Hatcheries to the Pacific Salmon Fisheries
2	79-4	Larry Everson	ODFW Portland, OR	Study of Wild Spring Chinook in the John Day River
3	80-l	Stephen Smith	PMFC Portland, OR	Smolt Monitoring Program
4	81-1	Tom Vogel	NMFS CZES Seattle, WA	Flow and Spill Requirements for Juvenile Fall and Summer Chinook Salmon in John Day Reservoir
5	81S-5	Tom Vogel	MDFWP Kalispell, MT	Effects of Operation of Kerr and Hungry Horse Dam on Reproductive Success of Kokanee in the Flathead System
6	81S-8	Jeff Gislason	Warm Springs Tribe Terry Luther Madras, OR	Establishment of Baseline Information for the Warm Springs Indian Reservation
7	82-l	Tom Vogel	Nez Perce Tribe Lapwai, ID	A Biological and Physical Inventory of the Streams Within the Nez Perce Reservation
8	82-2	Tom Vogel	NMFS CZES Seattle, WA	Use of a Fish Transportation Barge for Increasing Returns of Steelhead Trout Imprinted for Homing
9	82-3	Fred Holm	USFWS NFRC Cook, WA	Feeding Activity, Rate Consumption, Daily Ration, and Prey Selection of Major Predators in the John Day Reservoir Pool
10	82-7	Stephen Smith	NMFS CZES Seattle, WA	Snake River Fall Chinook Brood Program
11	82-8	Tom Vogel	NMFS CZES Seattle, WA	Smolt Passage Behavior and Flow Net Relationships in the Forebay of John Day Dam

Map Location	Project Number	Project Manager	Performing Agency	Project Title
12	82-11	Ron Morinaka	USFWS NFRC Cook, WA	Bioenergetics of Juvenile Salmon During the Spring Outmigration
13	82-12	Fred Holm	ODFW Clackamas, OR	Estimate Abundance and Growth Characteristics of Squawfish and Walleye in John Day Reservoir and Tailrace
14	82-13	Stephen Smith	PMFC Seattle, WA	Coded Wire Tag Sampling
15	82-16	Tom Vogel	Yakima Tribe Toppenish, WA	Natural Production Assessment and Rehabilitation of Spring Chinook in the Yakima River
16	82-18	Tom Vogel	Umatilla Tribe Pendleton, OR	Operation and Maintenance of Bonifer Springs Acclimation Facility
17	82-19	Dale Johnson	MDFWP Kalispell, MT USFS Flathead NF Kalispell, MT	Cumulative Impact Study of Microhydro Sites, Swan River
18	82-21	Ron Morina'ca	USFWS NFRC Seattle, WA	Control & Development of Hatchery Practices & Antiviral Drugs to IHN Virus in Sockeye, Chinook Salmon, and Steelhead Trout
19	83-1	Tom Vogel	Salish/ Kootenai Tribe Pablo, MT	Lower Flathead River Fisheries Study
20	83-2	Jim Meyer	Salish/ Kootenai Tribe Pablo, MT	Impact of Water Levels on Canada Geese
21	83-6	Tom Clune	USFWS Vancouver, WA	Fish Tagging Trailer Operation & Maintenance
22	83-7	Larry Everson	IDFG Boise, ID	Idaho Habitat Evaluation (Offsite Mitigation Record)

Map Location	Project Number	Project Manager	Performing Agency	Project Title
23	83-304	Kathy Anderson	USFWS NFRC Seattle, WA	Development of a Rapid Serodiagnostic Test for the Detection, Surveillance, and Diagnosis of Five Important Pathogens of Fishes in the Columbia River Basin
24	83-312	Gerry Bouck	osu Corvallis, OR	Epidemiology and Control of Infection Disease of Salmonids in the Columbia River Basin
25	83-313	Ron Morinaka	USFWS NFRC Cook, WA	Pen Rearing and Imprinting of Fall Chinook Salmon
26	83-316	Fred Holm	uw Seattle, WA	Columbia River White Sturgeon Enhancement
27	83-319	Stephen Smith	NMFS Seattle, WA	Biological Feasibility of a New Fish Tagging System
28	83-323	Tom Vogel	IDFG Boise, ID	Smolt Condition and Timing of Arrival at Lower Granite Reservoir
29	83-335	Larry Everson	ODFW Portland, OR	Stock Assessment of Anadromous Salmonids of Columbia River Basin
30	83-341	Dale Johnson	ODFW Portland, OR	Hood River Passage
31	83-350	Tom Vogel	Nez Perce Tribe Lapwai, ID	Low Technology Fisheries Facilities
32	83-353	Gerry Bouck	Fish Management Consultants Olympia, WA	Low Cost Salmon and Steelhead Production Systems for the Columbia River Basin
33	83-359	Larry Everson	Shoshone/ Bannock Tribe Fort Hall, ID	Rehabilitate and Protect Critical Anadromous Salmonids Spawning and Rearing Habitat in Bear Valley Creek
34	83-363	Ron Morinaka	osu Seafoods Lab Astoria, OR	Development for Rations for the Enhanced Survival of Salmon

Map Location	Project Number	Project Manager	Performing Agency	Project Title
35	83-364	Tom Clune	Clatsop Co. Fisheries Astoria, OR	Evaluation of Low-Cost Salmon Production Facilities
36	83-392	Larry Everson	USFS Wallowa-Whitman NF Baker, OR	Peavine Creek Spawning Habitat Improvement
37	83-406	Stephen Smith	Grant Co. PUD Ephrata, WA	Priest Rapids Summer Migrant Monitoring
38	83-423	Dale Johnson	Northwest Bio Consultants Ashland, OR	Trout Creek Riparian Habitat Restoration
39	83-434	Tom Vogel	COE Walla Walla, WA	Lower Umatilla River Channel Modifications to Allow Restoration of Upriver Bright Fall Chinook and Enhance Summer Steelhead Production in the Umatilla River Basin
40	83-435	Tom Vogel	Umatilla Tribe Pendleton, OR	Umatilla Release, Collection, and Holding Facilities
41	83-436	Tom Vogel	BR Boise, ID	Modification of Three Mile Dam to Improve Adult Salmon and Steelhead Passage in the Lower Reaches of the Umatilla River
42	83-450	Larry Everson	OTT Water Engineers Bellevue, WA	White River Falls [Oregon] Fish Passage Project/National Environmental Policy Act Work
43	83-451	Gerry Bouck	osu Corvallis, OR	Stock ID of Columbia River Chinook and Steelhead
44	83-463	Fred Holm	MDFWP Missoula, MT	Evaluation of Water Releases at Painted Rocks Reservoir
45	83-464	Jim Meyer	MDFWP Helena, MT	Evaluation of the Effects of Hungry Horse & Clark Fork Dams on Wildlife and Wildlife Habitat

Map Location	Project Number	Project Manager	Performing Agency	Project Title
46	83-465	Stephen Smith	MDFWP Kalispell, MT	Quantification of Hungry Horse Reservoir Levels Needed to Maintain or Enhance Reservoir Fisheries
47	83-467	Stephen Smith	MDFWP Kalispell, MT	Quantification of Libby Reservoir Levels Needed to Maintain or Enhance Reservoir Fisheries
48	83-491	Stephen Smith	CRITFC Portland, OR	Water Budget Management
49	83-498	Jim Meyer	MDFWP Helena, MT	Impacts of Water Level Fluctuations on Canada Geese; Flathead River Valley, Montana
50	83-536	Stephen Smith	PMFC Portland, OR	Water Budget Management
51	83-834	Tom Vogel	ODFW Pendleton, OR	Lower Umatilla Channel Modifications Assessment
52	84-2	Ron Morinaka	IDFG Boise, ID	Protection of Wild Steelhead In the Upper Snake River, Idaho
53	84-5	Larry Everson	USFS Nez Perce NF Grangeville, ID	Red River/Crooked River Fish Passage Habitat Improvements
54	84-6	Larry Everson	USFS Clearwater NF Orofino, ID	Clearwater River Habitat Enhancement (Lolo, Crooked Fork, & El Dorado Creeks)
55	84-7	Dale Johnson	usscs Portland, OR	Coordination of Trout Creek Riparian Restoration
56	84-8	Larry Everson	USFS Umatilla NF John Day, OR	John Day River Habitat Enhancement (Clear, Granite, North Fork)
57	84-9	Kathy Anderson	USFS Wallowa-Whitman NF Baker, OR	Grande Ronde Habitat Enhancement (Joseph, Peavine, Elk & Chesnimnus Creeks)
58	84-10	Tom Vogel	ODFW Portland, OR	Comprehensive Plan for the Restoration of Salmon and Steelhead in the Umatilla River Basin

Map Location	Project Number	Project Manager	Performing Agency	Project Title
59	84-11	Kathy Anderson	USFS Mt. Hood NF Gresham, OR	Habitat Enhancement: Collawash Falls, Fish & Lake Branch Creeks
60	84-13	Jim Geiselman	COE (North Pacific Division) Portland, OR	Dissolved Nitrogen Gas Model
61	84-14	Stephen Smith	NMFS Seattle, WA	Smolt Monitoring at Federal Hydroelectric facilities
62	84-17	Stephen Smith	IDFG Boise, ID	Freeze Branding of Salmon and Steelhead for Water Budget Studies--Idaho
63	84-19	Tom [illegible]une	IDFG Boise, ID	Cabinet Gorge Kokanee Hatchery - Lake Pend Oreille, Idaho
64	84-21	Larry Everson	ODFW John Day, OR	John Day River Habitat Enhancement (Main Stem, Middle Fork)
65	84-22	Larry Everson	USFS Malheur NF John Day, OR	John Day River Habitat Enhancement (East Fork Beech Creek, Canyon, Big Boulder Granite Boulder Creeks),
66	84-23	Larry Everson	USFS Salmon NF Salmon, ID	Camas Creek Habitat Enhancement
67	84-24	Larry Everson	USFS Region IV Ogden, UT	Marsh, Elk Creeks and Upper Salmon and Middle Fork Salmon River, Idaho Habitat Enhancement (Marsh, Elk
68	84-25	Kathy Anderson	ODFW Portland, OR	Grande Ronde River Habitat Enhancement
69	84-28	Larry Everson	Ott Water Engineers Bellevue, WA	Lemhi River Habitat Rehabilitation - Idaho
70	84-29	Larry Everson	Bechtel Corp. San Francisco, CA	Panther Creek Habitat Rehabilitation - Idaho
71	84-33	Tom Vogel	ODFW Portland, OR	Umatilla River Summer Steelhead Hatchery--Feasibility Study

Map Location	Project Number	Project Manager	Performing Agency	Project Title
72	84-36	Jim Meyer	ODFW Portland, OR	Wildlife and Wildlife Habitat Loss Assessment for the Willamette River Projects
73	84-38	Jim Meyer	USFS Region I Libby, MT	Ural-Tweed Bighorn Sheep - Wildlife Mitigation Project
74	84-39	Jim Meyer	MDFWP Kalispell, MT	Ural-Tweed Bighorn Sheep - Wildlife Mitigation Project
75	84-40	Dale Johnson	ODFW (Portland, OR) WSEO (Olympia, WA) USFS Region I (Missoula, MT) USFWS Regional Office (Portland, OR) BLM (Portland, OR) IDFG (Boise, ID) MDFWP (Helena, MT) ODOE (Portland, OR) Klamath Tribe (Chiloquin, OR) Point No Point Tribe Shoshone/Bannock Tribe (Fort Hall, ID) Yakima Tribe (Toppenish, WA) Tulalip Tribe (Marysville, WA) Squaxin Island Tribe (Shelton, WA) CRITFC (Portland, OR) Chehalis Tribe (Oakville, WA)	Protected Areas Methodology
76	84-41	Dale Johnson	Argonne Nat'1 Lab Argonne, IL	Cumulative Effects Methodology
77	84-42	Tom Vogel	NMFS CZES Seattle, WA	Evaluate Sources of Loss of Adult Salmon Between Bonneville and McNary Dams (Parts and Development of Radio Tags)
78	84-43	Gerry Bouck	osu Corvallis, OR	Development of a Subunit Vaccine Against Infectious Hematopoietic Necrosis (IHN) Virus
79	84-44	Gerry Bouck	OHSU Portland, OR	Etiology of Early Lifestage Diseases
80	84-45	Gerry Bouck	USFWS Longview, WA osu Corvallis, OR	Influence of Nutrition on the Immune Response in Hatchery Reared Salmonids (Ceratomyxosis, Kidney Disease and Furunculosis)

Map Location	Project Number	Project Manager	Performing Agency	Project Title
81	84-46	Gerry Bouck	osu Corvallis, OR	Evaluate Vaccines for Bacterial Kidney Disease in Salmon
82	84-48	Tom Clune	U.S. Bureau of Reclamation Boise, ID	Predesign for the Construction of Renovations to Satus Creek, Upper Toppenish Creek, Marion Drain, Taneum, Snipes/Allen Canal, Westside Ditch, Thorpe, Ellensburg Town Diversion, and Stevens Ditch - Yakima Basin, WA
83	84-49	Stan Detering	Resources for the Future Washington, DC	Process for Determining the Administrator's Obligation for Mitigation of Fish & Wildlife
84	84-51	Ron Korinaka	GAIA Bothell, WA	Survey of Artificial Production of Salmonids in the Columbia River Basin
85	84-52	Gerry Bouck	EA Engineering Lafayette, CA	Workshop on Smoltification Research
86	84-54	Stephen Smith	Chelan Co. PUD Wenatchee, WA	Juvenile Salmonid Monitoring at Rock Island Dam Bypass Sampler
87	84-55	Tom Clune	SVID Sunnyside, WA	Sunnyside Screen Construction - Yakima Basin, WA
88	84-56	Tom Clune	WDF Yakima, WA	Horn Rapids Screen Construction - Yakima Basin, WA
89	84-57	Tom Clune	BR Boise, ID	Wapato Screen & Ladder Construction; Yakima Basin, WA
90	84-58	Tom Clune	BR Boise, ID	Toppenish Creek/Satus Unit Screens & Ladder Construction; Yakima Basin, WA
91	84-60	Tom Clune	BR Boise, ID	Horn Rapids Screen Construction; Yakima Basin, WA
92	84-61	Tom Clune	BR Boise, ID	Sunnyside Ladder and Old Reservation Canal Screen Construction; Yakima Basin, WA
93	84-62	Dale Johnson	ODFW Portland, OR	Trout Creek Riparian Restoration

Map Location	Project Number	Project Manager	Performing Agency	Project Title
94	85-l	Jim Meyer	IDFG Boise, ID	Wildlife and Wildlife Habitat Loss Assessments for the Anderson Ranch, Black Canyon, and Boise Diversion Hydroelectric Facilities in Idaho
95	85-6	Fred Holm	MDFWP Kalispell, MT	Determination of Instream Flows Needed for Successful Migration, Spawning and Rearing of Rainbow and Cutthroat Trout in Selected Kootenai River Drainage Tributaries
96	85-23	Fred Holm	MDFWP Kalispell, MT	Determination of Fishery Losses in the South Fork of the Flathead River and Tributaries Resulting from Flooding by Hungry Horse Reservoir and the Proposed Mitigation Alternatives
97	85-35	Stephen Smith	NMFS CZES Seattle, WA	Juvenile Radio Tag Studies
98	85-38	Fred Holm	Colville Tribe Nespelem, WA	Preliminary Design of Colville Hatchery
99	85-52	Tom Clune	Chelan Co. PUD Wenatchee, WA	Tumwater Falls Dam Passage
100	85-53	Tom Clune	Chelan Co. PUD Wenatchee, WA	Dryden Dam Passage
101	85-62	Tom Clune	Battelle Pacific NW Lab Portland, OR	Evaluation of the Effectiveness of the Sunnyside Fish Screens and Richland Canal
102	85-64	Fred Holm	Battelle Pacific NW Lab Portland, OR	Develop a Work Plan for Sturgeon Research
103	85-68	Ron Morinaka	ODFW Portland, OR	Willamette Spring Chinook Study Plan
104	85-71	Kathy Anderson	BLM Burns, OR	South Fork John Day River Passage Improvement: Mainstem & Izee Falls
105	85-83	Stephen Smith	Biosonics, Inc Seattle, WA	Hydroacoustic Monitoring at Lower Monumental and Dalles Dams

Map Location	Project Number	Project Manager	Performing Agency	Project Title
106	85-78	Stan Detering	Resources for the Future Washington, DC	Design of Studies for Development of Fish and Wildlife Mitigation Accounting Policy
107	85-84	Tom Clune	NMFS CZES Seattle, WA	Electrophoresis Demonstration Project
108	85-85	Tom Clune	wsu Pullman, WA	Temporary Fish Passage on Toppenish Creek; Yakima Basin, Washington
109	85-86	Tom Clune	Ott Water Engineers Bellevue, WA	Tumwater/Dryden Fish Passage Environmental Assessment
110	85-89	Tom Clune	Yakima Tribe Toppenish, WA	Construct a Security Fence for Sunnyside Right Bank Fish Ladder; Yakima Basin, WA
111	85-339	Fred Holm	IDFG Boise, ID	Kokanee Stock Status in Lake Pend Oreille and Evaluation of Cabinet Gorge Hatchery

Agency Key:

IDFG	Idaho Department of Fish and Game
ODFW	Oregon Department of Fish and Wildlife
WDF	Washington Department of Fisheries
WDG	Washington Department of Game
MDFWP	Montana Department of Fish, Wildlife, and Parks
BLM	U.S. Bureau of Land Management
COE	U.S. Army Corps of Engineers
BR	U.S. Bureau of Reclamation
NMFS	National Marine Fisheries Service
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
PMFC	Pacific Marine Fisheries Commission
CZES	Coastal Zone and Estuarine Studies
NFRC	National Fishery Research Center
PUD	Public Utility District
osu	Oregon State University
WSEO	Washington State Energy Office
ODOE	Oregon Department of Energy
OHSU	Oregon Health Sciences University
SVID	Sunnyside Valley Irrigation District
scs	U.S. Soil Conservation Service
CRITFC	Columbia River Inter-Tribal Fish Commission
uw	University of Washington

DISTRIBUTION OF PROJECT FUNDS
BPA DIVISION OF FISH AND WILDLIFE
FY 1985

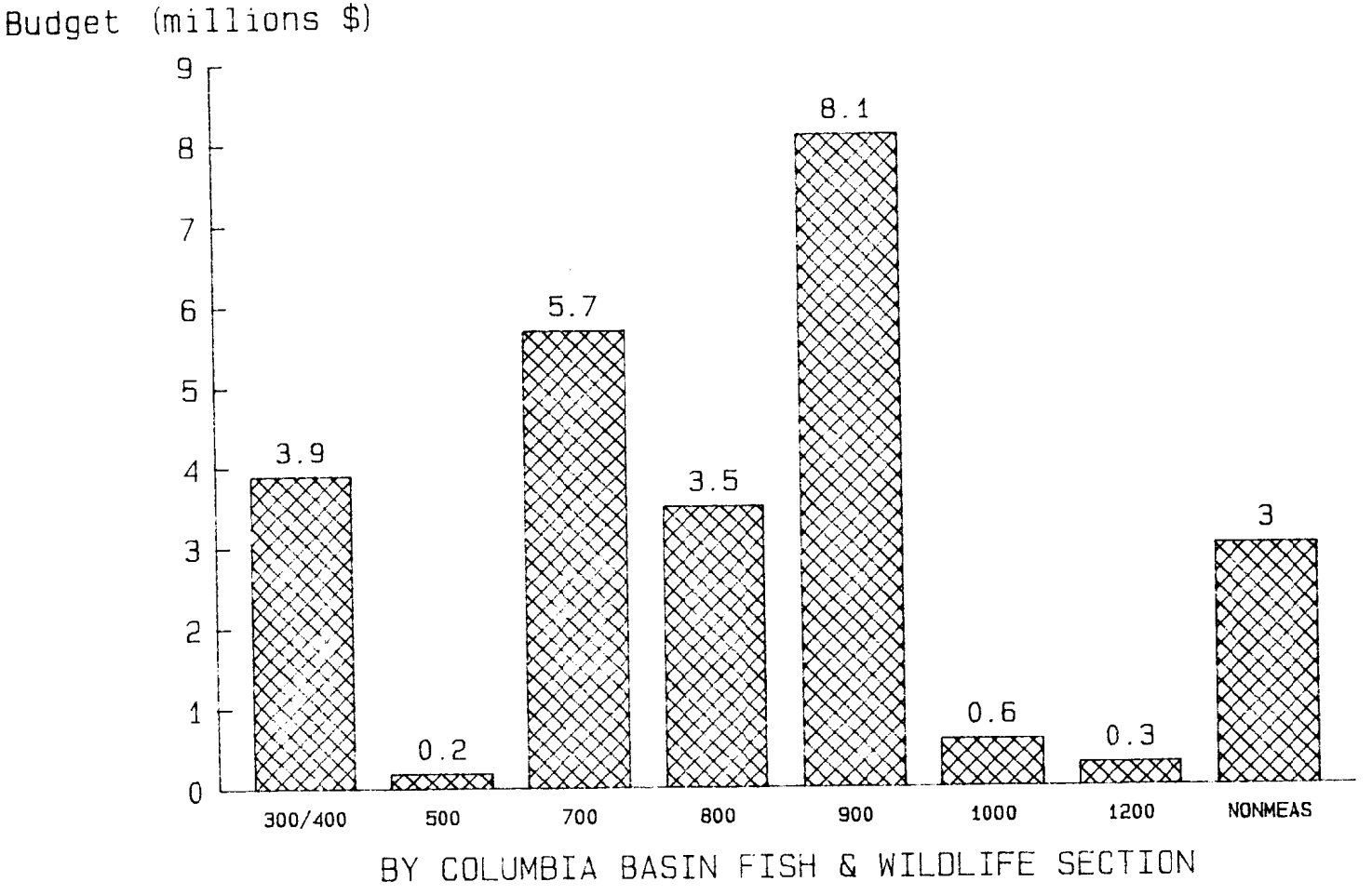
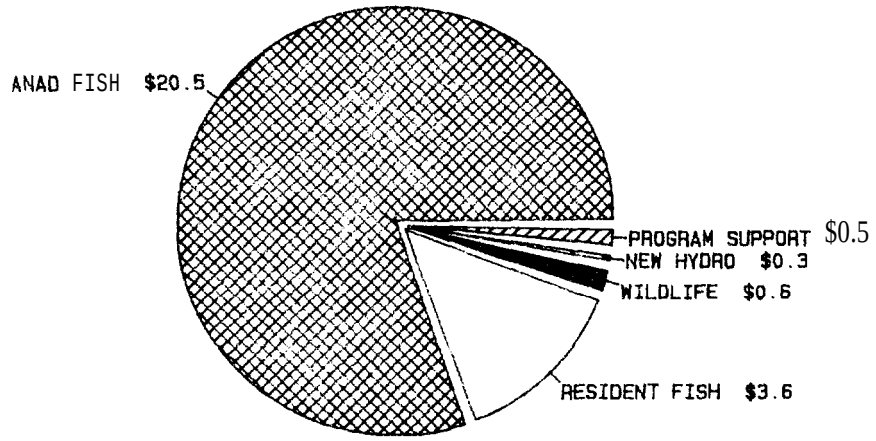


Figure 6

DISTRIBUTION OF FY 1985 PROJECT FUNDS
BY BUDGET AREA
IN DOLLARS



(millions $)

BY PERCENT

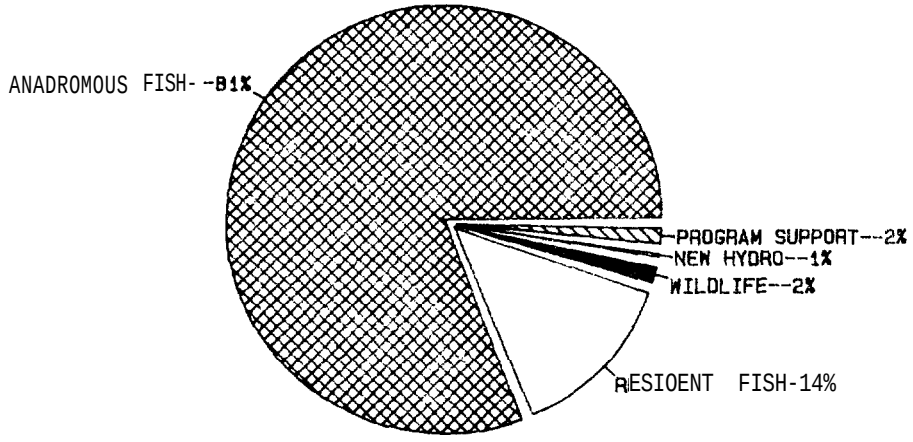
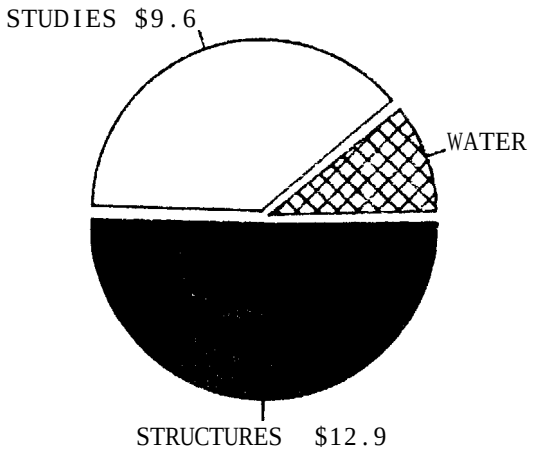
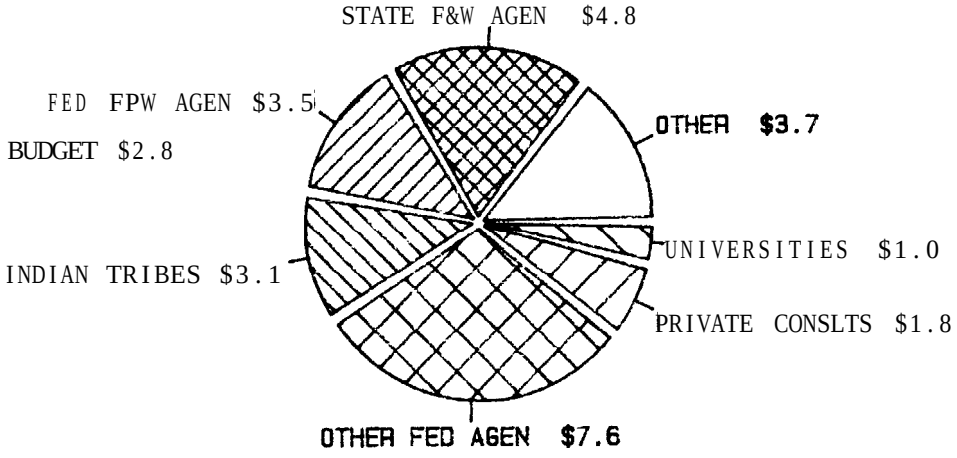


FIGURE 7

DISTRIBUTION OF FY 1985 FISH AND WILDLIFE PROJECT FUNDS
(millions $1)



BY FUNCTIONAL AREA



BY CONTRACTOR ORGANIZATION

FIGURE 9

BONNEVILLE POWER ADMINISTRATION

Office of Power and Resources Management
Division of Fish & Wildlife

Director: John R. Palensky

Office of The Director (PJ)

Marge Sweet, Secretary (x4981)
Barb Ballew, Administrative Technician (x7464)
Sharon Blair, Public Affairs Specialist (x4982)
Lee Miller, Budget Analyst (x7578)
Christine Stoffels, Computer Analyst (x5208)

Systems Integration Branch (PJI)

Stephen Smith, Chief
Secretary (x4978)
Tom Clune, Special Projects Manager (x5204)
Stan Detering, Economist (x4979)
Jim Geiselman Environmental Engineer (x5494)
Dale Johnson, Fishery Biologist (x5206)

Biological Studies Branch (PJS)

Greg Drais, Chief
Terry Harty, Secretary (x5549)
Kathy Anderson, Fishery Biologist (x7579)
Gerry Bouck, Senior Biologist, (x5213)
Maija Cafferty, Budget Clerk (x5495)
Larry Everson, Fishery Biologist (x5497)
Jeff Gislason, Fishery Biologist (x7463)
Fred Holm, Fishery Biologist (x5200)
Jim Meyer, Wildlife Biologist (x5239)
Ron Morinaka, Fishery Biologist (x5885)
Tom Vogel, Fishery Biologist (x5201)

BPA DIVISION OF FISH & WILDLIFE STAFFING LEVELS
FY 1978-1985

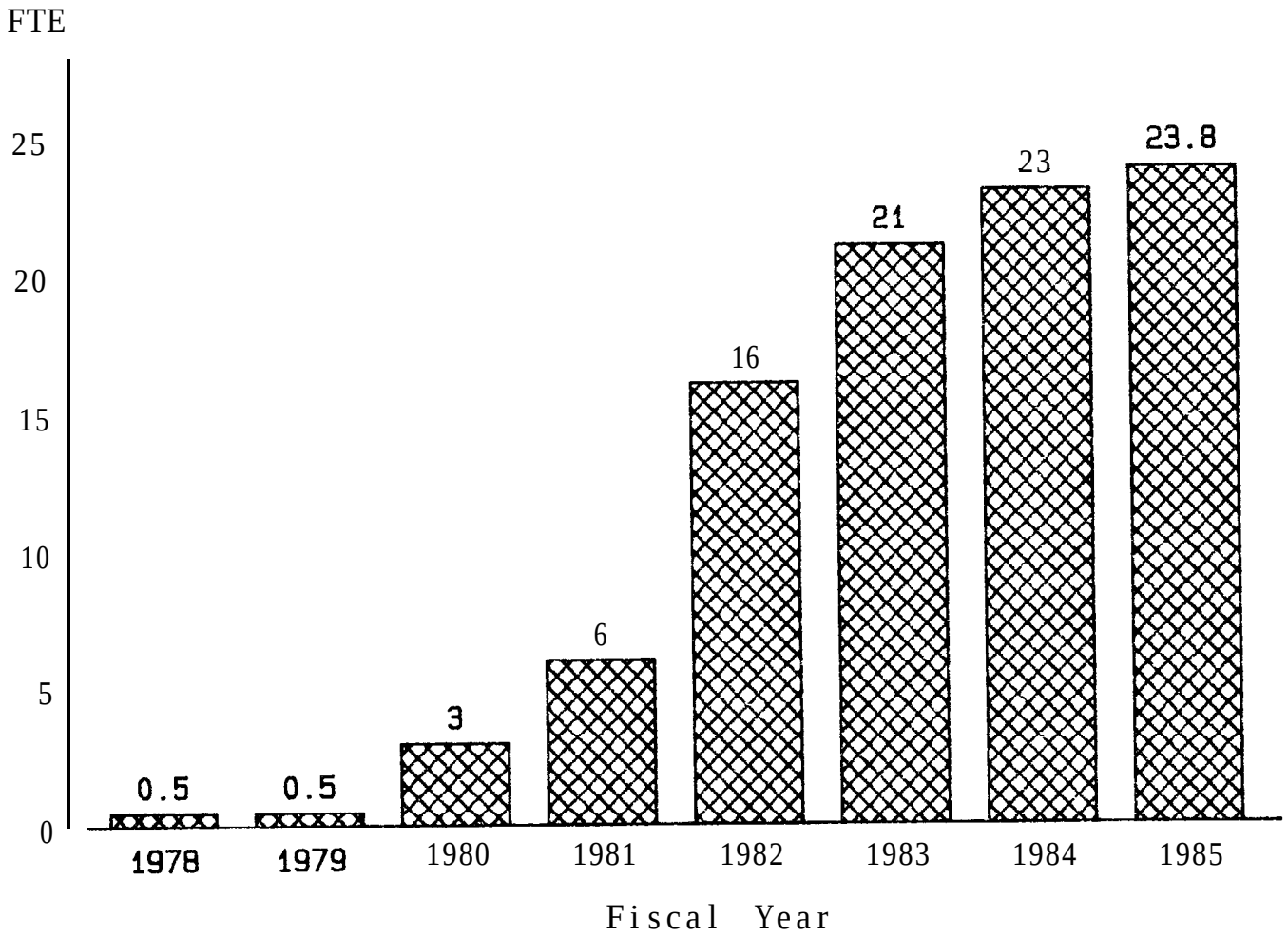


FIGURE 9

PUBLICATIONS LIST

GENERAL INFORMATION

Division of Fish and Wildlife Booklet, 1983

Annual Review of BPA-Funded Projects in Fish Health and Culture, 3/84

(DOE/BP-249) Issue Backgrounder: Enhancing Our Fish and Wildlife Resources, 5/84

Division of Fish and Wildlife Booklet, 1984

(DOE/BP-258) Environment and Power: Fish and Wildlife Annual Project Summary,1983

(DOE/BP-324) Issue Alert: Yakima Basin Passage Improvement, 1984

Annual Review of BPA-Funded Fish and Wildlife Projects in Montana, 11/84

Annual Review: BPA-Funded Projects in Downstream Migration, Fish Health, Fish Culture, Natural Propagation & Habitat Enhancement, March 27-29, 1985

(DOE/BP-466) Environment and Power: Fish and Wildlife Annual Project Summary, 1984

(DOE/BP-441) Issue Backgrounder: Downstream Fish Migration - Improving the Odds of Survival, 5/85

(DOE/BP-463) Issue Backgrounder: West of the Divide -- Fish and Wildlife Projects in Western Montana, 7/85

(DOE/BP-510) Project Brief: Kokanee Salmon in the Flathead System, 9/85

DOWNSTREAM MIGRATION

Committee on Fishery Operations, Annual Report: 1982

Feeding Activity, Rate of Consumption, Daily Ration and Prey Selection of Major Predators in the John Day Reservoir Pool (82-3), Annual Report: 1982

(DOE/BP-382) Feeding Activity, Rate of Consumption, Daily Ration and Prey Selection of Major Predators in the John Day Reservoir Pool (83-3), Annual Report: 1983

(DOE/BP-253) Smolt Condition and Timing of Arrival at Lower Granite Dam (83-323), Annual Report: 1983

(DOE/BP-343) Imprinting of Hatchery-Reared Salmon and Steelhead Trout for Homing of Transported Fish (78-l), Annual Report: 1983

(DOE/BP-344) Flow and Spill Requirements for Juvenile Fall and Summer Chinook Salmon in the John Day Reservoir, (81-l), Annual Report: 1983

(DOE/BP-345) Use of a Fish Transportation Barge for Increasing Returns of Steelhead Trout Imprinted for Homing (82-2), Annual Report: 1983

(DOE/BP-347) Smolt Passage Behavior and Flownet Relationships in the Forebay of John Day Dam (82-8), Annual Report: 1983

(DOE/BP-348) Biological Feasibility of a New Fish Tagging System (83-319), Annual Report: 1983

(DOE/BP-364) Hydroacoustic Monitoring of Downstream Migrating Salmon at Wells Dam (84-15), Annual Report 1984

(DOE/BP-380) Investigation of the Process for Registration of Squoxin for Squawfish Control (83-428), Final Report: 1984

(DOE/BP-381) Abundant and Distribution of Northern Squawfish and Walleye in John Day Reservoir and Tailrace (82-12), Annual Report: 1982

(DOE/BP-338) Columbia River Salmonid Outmigration: McNary Dam Passage and Enhanced Smolt Quality (82-6), Completion Report: 1984

(DOE/BP-375) Development and Evaluation of an Effective Transport Media for Juvenile Chinook Salon (82-4), Final Report: 1985

(DOE/BP-354) Water Budget Center Annual Report, 1984

(DOE/BP-35097) Abundance and Distribution of Walleye, Northern Squawfish and Smallmouth Bass in John Day Reservoir and Tailrace (82-12), Annual Report: 1983

(DOE/BP-35097-2) Abundance and Distribution of Walleye, Northern Squawfish and Smallmouth Bass in John Day Reservoir and Taflrace (82-12), Annual Report: 1984

(DOE/BP-11982-1) Biological Feasibility of a New Fish Tagging System (83-319), Annual Report: 1984

(DOE/BP-11196-l) Effects of Handling and Crowding on the Stress Response and Viability of Chinook Salmon Parr and Smolts (82-5), Completion Report: 1984

(DOE/BP-11797-l) Survival of Wells Hatchery Steelhead in the Mid-Columbia River; Part I: Smolt Monitoring Program (80-l), Annual Report: 1984

(DOE/BP-11797-2) Migrational Characteristics of Columbia Basin Salmon and Steelhead Trout; Part II: Smolt Monitoring Program (80-l), Annual Report: 1984

(DOE/BP-35346-l) Bioenergetics of Juvenile Salmon During the Spring Outmigration (82-ll), Annual Report: 1983

ARTIFICIAL, PRODUCTION/FISH HEALTH RESEARCH

(DOE/BP-223) Proceedings: Viral Diseases of Salmonid Fishes in the Columbia River Basin, 1982

(DOE/BP-241) Rearing and Imprinting of Fall Chinook to Sites on the John Day Reservoir (83-313), Annual Report: 1983

(DOE/BP-346) Snake River Fall Chinook Brood Program (82-7), Annual Report: 1983

(DOE/BP-376) Epidemiology and Control of Infectious Diseases of Salmonids in the Columbia River Basin (83-312), Annual Report: 1984

(DOE/BP-365) Compendium of Low-Cost Pacific Salmon and Steelhead Trout Production Facilities and Practices in the Pacific Northwest (83-353), Final Report: 1984

(DOE/BP-392) Evaluation of the Contribution of Chinook Salmon Reared at Columbia River Hatcheries to the Pacific Salmon Fisheries (79-2), Annual Report: 1984

(DOE/BP-36999-l) Rapid Diagnosis of IHN Virus Infection in Salmon and Steelhead Trout (82-20), Final Report: 1984

(DOE/BP-11983-1) Evaluation of a Low-Cost Salmon Production Facility (83-364), Annual Report: 1984

(DOE/BP-11888-1) Development of Rations for the Enhanced Survival of Salmon (83-363), Annual Report: 1984

(DOE/BP-39642-l) Snake River Fall Chinook Brood Program (82-7), Annual Report: 1984

(DOE/BP-13084-1) Pen Rearing and Imprinting of Fall Chinook Salmon (83-313), Annual Report: 1984.

(DOE/BP-16480-1) Development of a Vaccine for Bacterial Kidney Disease in Salmon (84-46), Annual Report: 1984.

(DOE/BP-18007-1) Effects of Vitamin Nutrition on the Immune Response of the Hatchery - Reared Salmonids (84-45), Annual Report: 1984.

(DOE/BP-16479-1) Evaluation of a Subunit Vaccine to Infectious Hematopoietic Necrosis (IHN) Virus (84-43), Annual Report: 1984

NATURAL PROPAGATION/HABITAT ENHANCEMENT

(DOE/BP-243) Natural Propagation and Habitat Improvement: Volume I - Oregon (83-384, 83-341, 83-386, 83-423, 83-394, 83-395, 82-9, 83-441), Annual & Final Reports: 1983

(DOE/BP-244) Natural Propagation and Habitat Improvement: Volume I - Oregon: Supplement A (Habitat Enhancement Evaluation of Fish and Wash Creeks - USFS PNW Forest and Range Experiment Station) (83-385), Final Report: 1983

(DOE/BP-245) Natural Propagation and Habitat Improvement: Volume I - Oregon: Supplement B, (White River Falls Fish Passage - Ott Water Engineers) (83-450), Annual Report: 1983

(DOE/BP-240) Natural Propagation and Habitat Improvement: Volume I - Oregon: Supplement C (White River Falls Habitat Inventory - Mount Hood National Forest) (83-440), Annual Report: 1983

(DOE/BP-265) Natural Propagation and Habitat Improvement: Volume I - Oregon: Supplement D (White River Falls Fisheries and Habitat Inventory - Oregon Department of Fish and Wildlife) (83-440), Annual Report: 1983

(DOE/BP-246) Natural Propagation and Habitat Improvement: Volume IIA - Washington (Tumwater Falls) (83-446), Final Report: 1983

(DOE/BP-247) Natural Propagation and Habitat Improvement: Volume IIB - Washington (Similkameen River) (83-477), Final Report: 1983

(DOE/BP-248) Natural Propagation and Habitat Improvement: Volume III - Idaho (83-502, 83-552, 82-1, 83-415, 83-416), Annual & Final Reports: 1983

(DOE/BP-294) John Day Habitat Enhancement Evaluation (82-9), Annual Report: 1983

Work Plan: Habitat & Passage Enhancement - Section 704(d)(l), FY 1985

(DOE/BP-10068-1) A Biological and Physical Inventory of Clear Creek, Orofino Creek and the Potlatch River, tributaries of the Clearwater River, Idaho (82-1), Final Report: 1984

(DOE/BP-16726-l) Fisheries Enhancement in the Fish Creek Basin, An Evaluation of In-Channel and Off-Channel Projects (84-11), Annual Report: 1984

(DOE/BP-13381-l) Idaho Habitat Evaluation For Offsite Mitigation Record (83-7) Annual Report

(DOE/BP-12737-l) Stock Assessment of Columbia River Anadromous Salmonids Volume I: Chinook, Coho, Chum, and Sockeye Salmon Stock Summaries (83-353), Final Report: 1984

(DOE/BP-12737-2) Stock Assessment of Columbia River Anadromous Salmonids Volume II: Steelhead Stock Summaries Stock Transfer Guidelines - Information Needs (83-353), Final Report: 1984

(DOE/BP-13102-1) Deschutes River Spawning Gravel Study Volume I (83-423), Final Report: 1984

(DOE/BP-13102-2) Deschutes River Spawning Gravel Study Volume II: Appendices (83-423) Final Report: 1984

RESIDENT FISH

(DOE/BP-202) Lower Flathead [Montana] Fisheries Study (83-l), Annual Report: 1983

(DOE/BP-362) Lower Flathead [Montana] Fisheries Study (83-l), Annual Report: 1984

(DOE/BP-225) Cumulative Impact Study of Microhydro Sites (82-19), Swan River [Montana], Annual Report: 1983

(DOE/BP-200) Effects of Operation of Kerr and Hungry Horse Dam on the Reproductive Success of Kokanee in the Flathead System (81S-5), Annual Report: 1983

(DOE/BP-204) Impacts of Water Level Fluctuations on Kokanee Reproduction in Flathead Lake (81S-5), Annual Report: 1983

(DOE/BP-201) White Sturgeon Research Needs: Workshop Results, 1983

(DOE/BP-363) Columbia River White Sturgeon Enhancement (83-316), final Report: 1984

(DOE/BP-296) Quantification of Libby Reservoir Levels Needed to Maintain or Enhance Reservoir Fisheries (83-467), Annual Report: 1983

(DOE/BP-312) Quantification of Hungry Horse Reservoir Levels Needed to Maintain or Enhance Reservoir Fisheries (83-465), Annual Report: 1983

(DOE/BP-13076) Evaluation of Management of Water Release for Painted Rocks Reservoir, Bitterroot River, Montana (83-463), Annual Report: 1984

(DOE/BP-12660-1) Quantification of Libby Reservoir Levels Needed to Maintain or Enhance Reservoir Fisheries (83-467), Annual Report: 1984

(DOE/BP-12660-IA) Quantification of Libby Reservoir Levels Needed to Maintain or Enhance Reservoir Fisheries (83-467), Annual Report 1984 Appendix

(DOE/BP-12659-1) Quantification of Hungry Horse Reservoir Levels Needed to Maintain or Enhance Reservoir Fisheries (83-465), Annual Report: 1984

(DOE/BP-383) Effects of Operation of Kerr and Hungry Horse Dam on the Reproductive Success of Kokanee in the Flathead System (81S-5), Annual Report: 1984

(DOE-BP-36717-1) Cumulative Effects of Micro-Hydro Development on the Fisheries of the Swan River Drainage, Montana (82-19); Volume I: Summary Report, Final Report: 1984

(DOE/BP-36717-2) Cumulative Effects of Micro-Hydro Development on the Fisheries of the Swan River Drainage, Montana (82-19); Volume II: Final Report: 1984

(DOE/BP-36717-3) Cumulative Effects of Micro-Hydro Development on the Fisheries of the Swan River Drainage, Montana (82-19); Volume III: Fish and Habitat Inventory, Final Report: 1984

(DOE/BP-22209-1) White Sturgeon Work Plan (85-64), 1985

(DOE/BP-39641-1) Impacts of Water Level Fluctuations on Kokanee Reproduction in Flathead Lake (81S5) Annual Progress Report: 1984

UPSTREAM MIGRATION

(DOE/BP-17234-1) Evaluation of Lower Umatilla River Channel Modifications Below Three-Mile Dam (83-834), Annual Report: 1984

(DOE/BP-17463-1) Fish Passage Improvements at Three Mile Falls Diversion Dam Umatilla River Oregon (83-, 36), Final Completion Report: 1984.
(DOE/BP-11797-3) Adult Fishway Inspections on the Columbia and Snake Rivers (80-l), Annual Report: 1984

Channel Modification for Fish Passage on Umatilla River (83-434), Final Report: 1985

YAKIMA

Yakima Spring Chinook Enhancement Study (82-16), Annual Report: 1983

(DOE/BP-39461-1) Yakima Spring Chinook Enhancement Study (82-16), Annual Report: 1984

Yakima River Basin Fish Passage Enhancement Plan, December 1984.

WILDLIFE

(DOE/BP-203) Impact of Water Levels on Canada Geese (83-2), Annual Report: 1983

(DOE/BP-314) Wildlife Impact Assessment and Mitigation Summary: Montana Hydroelectric Projects; Volume I - Libby Dam (83-464), Final Report: 1984

(DOE/BP-316) Wildlife Impact Assessment and Mitigation Summary: Montana Hydroelectric Projects; Volume IIA - Thompson Falls (83-464), Final Report: 1984

(DOE/BP-315) Wildlife Impact Assessment and Mitigation Summary: Montana Hydroelectric Projects; Volume IIB - Cabinet Gorge and Noxon Dams (83-464), Final Report: 1984

(DOE/BP-313) Wildlife Impact Assessment and Mitigation Summary: Montana Hydroelectric Projects, Volume III - Hungry Horse Dam (83-464), Final Report: 1984

(DOE/BP-317) Status Review of Wildlife Mitigation at Columbia Basin Hydroelectric Projects - Oregon Facilities (83-478), Final Report: 1984

(DOE/BP-319) Status Review of Wildlife Mitigation at Columbia Basin Hydroelectric Projects - Washington Facilities (83-478), Final Report: 1984.

(DOE/BP-369) Status Review of Wildlife Mitigation at Columnbia Basin Hydroelectric Projects - Columbia Mainstem & Lower Snake Facilities (83-478), Final Report: 1984

(DOE/BP-367) Wildlife and Wildlife Habitat Mitigation Plan, Montana Hydroelectric Projects Volume I - Libby Dam (83-464), Final Report: 1984

(DOE/BP-366) Wildlife and Wildlife Habitat Mitigation Plan, Montana Hydroelectric Projects Volume II - Hungry Horse Dam (83-464), Final Report: 1984

(DOE/BP-12144) Status Review of Wildlife Mitigation at Columbia Basin Hydroelectric Projects - Idaho Facilities (83-478), Final Report: 1984

(DOE/BP-10062) Impacts of Water Level Fluctuations on Breeding Canada Geese and the Methodology for Mitigation and Enhancement in the Flathead Drainage (83-2), Annual Report: 1984.

(DOE/BP-11983) Wildlife & Wildlife Habitat Mitigation Plan, Montana Hydroelectric Projects Volume IIB-Cabinet Gorge & Noxon Rapids Dams (83-464), Final Report: 1984

(DOE/BP-18968) Wildlife Impact Assessment; Palisades Project, Idaho (84-37), Final Report: 1984

(DOE/BP-16687-1) Effects of Water Levels on the Productivity of Canada Geese in the Northern Flathead Valley (83-498), Annual Report: 1984